Biological Non-Indigenous Species Metadata (200704)

Identification_Information:
Citation:
Citation_Information:
Originator: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge, Department of Natural Sciences, Bernice P. Bishop Museum
Publication_Date: 19990630
Title: Nonindigenous Marine Species Introductions in the Harbors of the South and West Shores of Oahu, Hawaii 1997-1998, NODC_0000324
Edition: none
Geospatial_Data_Presentation_Form: Document
Series_Information:
Series_name: Bishop Museum Technical Report
Issue_Identification: No. 15
Publication_Information:
Publication_Place: Honolulu, HI
Publisher: Bernice P. Bishop Museum
Other_Citation_Details: Report includes review of other studies of non-indigenous species introductions and impacts on native populations, and a historical perspective of Honolulu Harbor and other south shore harbors. Study collates current findings with other investigations of non-indigenous species. Illustrative maps, charts, and graphics accompany the text.
Online_Linkage: http://hbs.bishopmuseum.org/pdf/southshore.pdf
Description:
Abstract: Only recently has information become available concerning the abundance of nonindigenous
species in Hawaiian waters. Maciolek (1984) listed 19 species of diadromous and marine fishes to be present in
Hawaiian waters, which was increased to 21 marine species by Randall (1987), about 4% of a total of 536 Hawaiian
shore fish species (Randall 1992). Carlton and Eldredge (in prep.) reviewed the marine and brackish water
invertebrates of Hawai and determined approximately 205 species to be demonstrably or potentially nonindigenous,
again about 4% of the approximate 5000 marine species estimated for Hawaiói (Allison et al. 1995). Approximately
18 species of macroalgae have been introduced to Hawai since 1950 (Russell 1992, Rogers 1997, 1999), again about
4% of the approximately 430 estimated total macroalgal species for Hawaiói (G. Smith, pers. comm.).

Baseline studies of Hawaiian nearshore marine biota directed toward the detection of introduced
species and their impact have shown that nonindigenous introductions vary substantially from these average values,
depending on the characteristics of the area surveyed. The most comprehensive survey conducted to date, a 1996
survey completed in Pearl Harbor (Coles et al. 1997; 1999), found 95 known or potentially nonindigenous species,
which composed 23% of the 419 invertebrates, macroalgae, and fishes found. Only three nonindigenous invertebrates
and one nonidigenous fish occurred at Midway Atoll in 1997 out of a total 444 taxa found (DeFelice et al. 1998). No

nonindigenous algae or invertebrates were found in the nearshore and intertidal of Kahoóolawe Island in 1998 out of a
total of 298 species observed or collected (Coles et al. 1998).

Despite the potential importance of Honolulu Harbor or other commercial harbors on Oahu as
potential gateways for nonindigenous marine species to enter the Hawaiian marine ecosystem, no studies have
previously been conducted of introduced species in Hawaiian commercial harbors, and little information is available for
the composition of the marine communities for these harbors. Therefore, surveys were conducted in Honolulu Harbor
and Keehi Lagoon in 1997, and in Kewalo Basin, the Ala Wai Yacht Harbor and the Barbers Point Deep Draft Harbor
in 1998. The results of this study are reported herein and the presence and impact of nonindigenous marine
introductions in these harbors are evaluated
Purpose: To examine introduced marine species and the composition of marine communities in Hawaiian commercial harbors.
Supplemental_Information: Studies of nonindigenous introductions in stream mouths along Oahuós
south and west shores and a evaluation of the role of hull fouling, ballast water and sediments as vectors for marine
introductions were conducted as part of this overall project and will be reported in separate reports.
Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 19970820
Ending_Date: 19980806
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: As needed
Spatial_Domain:
Description_of_Geographic_Extent: Honolulu Harbor, Keehi Lagoon, Kewalo Basin, the Ala Wai Yacht Harbor, and the Barbers Point Deep Draft Harbor, HI
Bounding_Coordinates:
West_Bounding_Coordinate: -157.92
East_Bounding_Coordinate: -157.12
North_Bounding_Coordinate: 21.332
South_Bounding_Coordinate: 21.283
Keywords:
Theme:
Theme_Keyword_Thesaurus: CoRIS Discovery Thesaurus
Theme_Keyword: Numeric Data Sets > Biology
Theme:
Theme_Keyword_Thesaurus: CoRIS Theme Thesaurus
Theme_Keyword: EARTH SCIENCE > Biosphere > Ecological Dynamics > Dominance > Invasive Species
Theme_Keyword: EARTH SCIENCE > Oceans > Marine Biology > Marine Invertebrates
Theme_Keyword: EARTH SCIENCE > Oceans > Marine Biology > Marine Invertebrates > Macroinvertebrates
Theme_Keyword: EARTH SCIENCE > Oceans > Marine Biology > Marine Invertebrates > Census
Theme_Keyword: EARTH SCIENCE > Biosphere > Aquatic Habitat > Coastal Habitat

Theme:
Theme_Keyword_Thesaurus: ISO 19115:2003 MD_TopicCategoryCode
Theme_Keyword: biota
Theme_Keyword: 002
Place:
Place_Keyword_Thesaurus: CoRIS Place Thesaurus
Place_Keyword: OCEAN BASIN > Pacific Ocean > Central Pacific Ocean > Hawaiian Islands > Oahu Island > Oahu (21N157W0003)
Place_Keyword: COUNTRY/TERRITORY > United States of America > Hawaii > Honolulu > Oahu (21N157W0003)
Place_Keyword: OCEAN BASIN > Pacific Ocean > Central Pacific Ocean > Hawaiian Islands > Oahu Island > Barber's Point (21N158W0003)
Place_Keyword: COUNTRY/TERRITORY > United States of America > Hawaii > Honolulu > Barber's Point (21N158W0003)
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Honolulu Harbor
Place_Keyword: Keehi Lagoon
Place_Keyword: Kewalo Basin
Place_Keyword: Ala Wai Yacht Harbor
Place_Keyword: Barbers Point Deep Draft Harbor
Stratum:
Stratum_Keyword_Thesaurus: None
Stratum_Keyword: Benthos
Taxonomy:
Keywords/Taxon:
Taxonomic_Keyword_Thesaurus: None
Taxonomic_Keywords: Rhodophycota
Taxonomic_Keywords: Magnoliophyta
Taxonomic_Keywords: Porifera
Taxonomic_Keywords: Cnidaria
Taxonomic_Keywords: Platyhelminthes
Taxonomic_Keywords: Annelida
Taxonomic_Keywords: Bryozoa
Taxonomic_Keywords: Ascidiacea
Taxonomic_Keywords: Osteichthyes
Taxonomic_Keywords: algae
Taxonomic_Keywords: fish
Taxonomic_Keywords: corals
Taxonomic_Keywords: mollusks
Taxonomic_Keywords: invertebrates
Taxonomic_Keywords: sponges
Taxonomic_System:
Classification_System/Authority:
Classification_System_Citation:
Citation_Information:
Originator: ITIS organization and partners: U.S. Department of Agriculture; National Oceanic and Atmospheric Administration; U.S. Geological Survey; Smithsonian Institution;
U.S. Environmental Protection Agency; National Biological Information Infrastructure; Agriculture and Agri-Food
Canada; U.S. National Park Service; Conabio (Comisión nacional para el conocimiento y uso de la biodiversidad - Mexico)
Publication_Date: 20040316
Title: Integrated Taxonomic Information System (ITIS)
Edition: None
Geospatial_Data_Presentation_Form: Database

Publication_Information:
Publication_Place: World Wide Web at URL: http://www.itis.usda.gov/
Publisher: Integrated Taxonomic Information System (ITIS) organization and partners
Other_Citation_Details: The U.S. White House Subcommittee on Biodiversity and Ecosystem Dynamics
has identified systematics as a research priority that is fundamental to ecosystem management and biodiversity conservation. This primary need identified by the Subcommittee requires improvements
in the organization of, and access to, standardized nomenclature. ITIS was designed to fulfill these requirements; the
goal is to create an easily accessible database with reliable information on species names and their hierarchical classification.
Online_Linkage: http://www.itis.usda.gov/
Classification_System_Modifications: The Integrated Taxonomic Information System (ITIS; http://www.itis.usda.gov/) was utilized as an aid to complete upper level species classifications FOR THIS
RECORD ONLY. Additional taxomic resources include:
Bishop Museum webite (http://www.bishopmuseum.org/);

MarLIN is an initiative of the Marine Biological Association of the UK in collaboration with major holders and users of marine biological data
(http://www.marlin.ac.uk/index2.htm?demo/Litcor.htm);

The Tree of Life is a collaborative web project, produced by biologists from around the world. On more than 2600 World Wide Web pages, the Tree of Life provides information about the diversity of organisms on Earth, their history, and characteristics
(http://tolweb.org/tree/phylogeny.html);

Australian Opheliidae (Polychaeta) DELTA database
(http://www.museum.vic.gov.au/poly/ophitems.html);

European register of Marine Species
(http://erms.biol.soton.ac.uk/lists/brief/Polychaeta.shtml);

CRUSTACEANS OF THE CNMI
(http://www.crm.gov.mp/marine/biodiversity/crusties/crust.htm);

Systema Naturae 2000 / Classification
(http://sn2000.taxonomy.nl/Main/Classification/..%5C..%5C..%5CMain%5CClassification%5C15265.htm);

Smithsonian Marine Station at Fort Pierce
(http://www.sms.si.edu/IRLSpec/aspecies2.htm);

Cephalaspidea from around the world
(http://www.medslugs.de/Opi/CEPHALASPIDEA.htm):

Sea slug forum (http://www.seaslugforum.net/species.htm);

A Biotic Database of Indo-Pacific Marine Mollusks (http://data.acnatsci.org/obis/);

The Academy of Natural Sciences: Online collections databases
(http://erato.acnatsci.org/databases/index.php):

The Amphipod Homepage (http://web.odu.edu/sci/biology/amphome/index.html):

The Dutch Ascidians Homepage (http://www.ascidians.com/).
Although every effort is made at the NODC to insure accuracy of the taxonomy contained in this metadata record, information is provided as an aid to search engines and is not designed to serve as a definitive taxonomic guide. Notes are included in this metadata record where the originator spelling differs from that as given by ITIS. NO ORIGINAL DATA IS ALTERED AT THE NODC.
Taxonomic_Procedures: Specimens collected were sorted and identified to species or the lowest practicable taxa, using dissecting or compound microscope magnification when necessary.
Taxonomic_Completeness: Specimens from various groups were sent to taxonomic experts for verification of preliminary identifications. Acknowledgement: Taxonomic expertise for identifying organisms was provided by the following individuals, and their efforts and contributions to this project are gratefully acknowledged.
Identifications were made using descriptions available in Reef and Shore Fauna of Hawaiói Sections 1 to 4 (published), 5 and 6 (unpublished), various taxonomic references, and voucher specimens in the Bishop Museum collections. Algae: Mr. Jack Fisher, Bishop Museum;
Zoantharians: Dr. Daphne Fautin, University of Kansas;
Pycnogonids: Dr. C. Allan Child, U.S. National Museum of Natural History;
Isopods and Tanaids Dr. Brian Kensley, U.S. National Museum of Natural History;
Caprellid Amphipods: Dr. Ichiro Tekeuchi, University of Tokyo;
Barnacles: Dr. William Newman, Scripps Institution of Oceanography;
Molluscs: Ms. Regie Kawamoto, Bishop Museum;
Bryozoa: Ms. Chela Zabin, University of Hawaii;
Ascidians: Dr. Gretchen Lambert, California State University at Fullerton and Mr. Scott Godwin, Bishop Museum;
Fish: Mr. Arnold Suzamoto, Bishop Museum;
Crabs: Jeremy Park, Bishop Museum
General_Taxonomic_Coverage: Identified to species or the lowest practicable taxa.
Taxonomic_Classification:

Taxon_Rank_Name: Kingdom
Taxon_Rank_Value: Animalia
Applicable_Common_Name: animals
Taxonomic_Classification:
Taxon_Rank_Name: Phylum
Taxon_Rank_Value: Porifera
Applicable_Common_Name: sponges
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: unidentified
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: unidentified
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: unidentified
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Neofolitipsa
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Neofolitipsa ungiculata
Taxonomic_Classification:

Taxon_Rank_Name: Phylum
Taxon_Rank_Value: Cnidaria
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: Anthozoa
Applicable_Common_Name: corals, sea anemones, flower animals
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Actiniaria
Applicable_Common_Name: anemones, sea anemones
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Diadumenidae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Diadumene
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Diadumene franciscana
Applicable_Common_Name: San Francisco anemone
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Corallimorpharia
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Actinodiscidae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Actinodiscus
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Actinodiscus nummiformis
Taxonomic_Classification:
Taxon_Rank_Name: Phylum
Taxon_Rank_Value: Arthropoda
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: Pycnogonida
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Pantopoda
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Phoxichilidiidae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Anoplodactylus
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Anoplodactylus arescus
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: Malacostraca
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Amphipoda

Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Ischyroceridae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Jassa
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Jassa falcata
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Leucothoidae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Leucothoe
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Leucothoe micronesiae
Taxonomic_Classification:
Taxon_Rank_Name: Phylum
Taxon_Rank_Value: Ectoprocta
Applicable_Common_Name: bryzoan, ectoprocts, moss animals
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: Gymnolaemata
Applicable_Common_Name: marine bryzoans, tubular bryzoans
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Cheilostomata
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Bugulidae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Bugula
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Bugula dentata
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Bugula robusta
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Caulibugula
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Caulibugula caliculata
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Caulibugula dendrograpta
Taxonomic_Classification:
Taxon_Rank_Name: Phylum
Taxon_Rank_Value: Chordata
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: Ascidiacea

Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Stolidobranchia
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Styelidae
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Botrylloides
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Botrylloides simodensis
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Eusynstyela
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Eusynstyela aliena
Taxonomic_Classification:
Taxon_Rank_Name: Class
Taxon_Rank_Value: Actinopterygii
Applicable_Common_Name: ray-finned fishes, spiny rayed fishes
Taxonomic_Classification:
Taxon_Rank_Name: Order
Taxon_Rank_Value: Perciformes
Applicable_Common_Name: perch-like fishes
Taxonomic_Classification:
Taxon_Rank_Name: Family
Taxon_Rank_Value: Pomacanthidae
Applicable_Common_Name: angelfishes
Taxonomic_Classification:
Taxon_Rank_Name: Genus
Taxon_Rank_Value: Centropyge
Taxonomic_Classification:
Taxon_Rank_Name: Species
Taxon_Rank_Value: Centropyge flavissimus (listed C. flavissima in data)
Applicable_Common_Name: yellow angelfish
Access_Constraints: None
Use_Constraints: Dataset credit required. The Bishop Museum and/or the National Oceanographic Data Center
would appreciate recognition as the resource from which these data were obtained in any publications and/or other
representations of these data.
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge
Contact_Organization: Bernice P. Bishop Museum Department of Natural Sciences
Contact_Position: Scientist
Contact_Address:
Address_Type: mailing address
Address: 1525 Bernice Street
City: Honolulu
State_or_Province: HI
Postal_Code: 96817
Country: U.S.A.

Contact_Voice_Telephone: 808-847-3511
Contact_Facsimile_Telephone: 808-841-8968
Hours_of_Service: Standard office hours (9-5PB local time)
Contact_Instructions: Phone/mail to Bishop Museum
Data_Set_Credit: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge
Security_Information:
Security_Classification_System: unclassified
Security_Classification: Unclassified
Security_Handling_Description: none
Native_Data_Set_Environment: Original document in MS-WORD, duplicate EXCEL spreadsheets of accompanying data tables provided to NODC; redundant .TXT files archived at NODC; original document available as.PDF via Internet at Bishop Museum site.
Data_Quality_Information:
Logical_Consistency_Report: Literature Search-

A variety of sources of information on the environmental conditions and biological communities of the harbors on the south shore of Oahu were examined. Literature consulted included published papers in the open scientific literature, taxonomy-based monographs and books, unpublished reports for environmental studies in the harbors, and newspaper and magazine articles that were concerned with the development or environmental and biological communities of the harbors. Resources that were consulted in this search were the libraries of Bishop Museum, the University of Hawaii, and the Pacific Maritime Center. Environmental reports and Environmental Impact Statements and Assessments were reviewed from the University of Hawaiói Environmental Center, the Hawaiian Electric Co. Environmental Department and AECOS Inc. An annotated bibliography of all the literature assembled is presented in Appendix B of the main report included in this data set.

Bernice P. Bishop Museum Collections -

Bishop Museum collections databases for algae, invertebrates, malacology and ichthyology were reviewed for all marine or estuarine organisms indicated to have been collected in Honolulu Harbor, Keehi Lagoon, Kewalo Basin, the Ala Wai Yacht Harbor or the Barbers Point Deep Draft Harbor. The retrieved data were assembled into a combined database for Oahu south shore harbors (other than Pearl Harbor) containing taxa identity, taxonomic authority, collection location and date, collector and collectors notes, when available. This information is included with the general listing of all taxa for the study developed from all sources and presented in Appendix C of the main report included in this data set.

Data Analysis -

All organisms identified from the current field study were entered on an Access database relational with the databases for previous literature reports and museum collections of organisms from Pearl Harbor. The combined information was used to track the occur

Completeness_Report: See methodology section for details. No specific issues described in data report.
Lineage:
Methodology:
Methodology_Type: Field
Methodology_Identifier:
Methodology_Keyword_Thesaurus: CoRIS Theme Thesaurus
Methodology_Keyword: EARTH SCIENCE > Biosphere > Zoology > Corals > Reef monitoring and assessment > Baseline studies
Methodology_Keyword: EARTH SCIENCE > Biosphere > Zoology > Corals > Reef monitoring and assessment > Benthos analysis
Methodology_Keyword: EARTH SCIENCE > Biosphere > Zoology > Corals > Reef monitoring and assessment > Reef fish census > Random swimming
Methodology_Keyword: EARTH SCIENCE > Biosphere > Zoology > Corals > Reef monitoring and assessment > In situ biological
Methodology_Keyword: EARTH SCIENCE > Oceans > Marine Biology > Marine Invertebrates > Census
Methodology_Description: Field Surveys-

Benthic fouling and sediment biota were sampled and observations of fishes were made at
15 stations in Honolulu Harbor and five stations in Keehi Lagoon in 1997, and four stations in Kewalo Basin, five
stations in Ala Wai Yacht Harbor and three stations in Barberós Point Deep Draft Harbor in 1998. Station locations,
coordinates and dates of sampling are given in Table 1, and station locations are shown in Figures 10-12 in the original
data document.

The sampling and analysis process is summarized in Figure 13 in the original data
document. Collections and observations were made by two experienced investigators sampling as large a variety of
habitats as possible at each station while snorkeling or using Scuba. One diver sampled fouling organisms growing on
hard surfaces from the intertidal zone to the bottom by scraping three samples of approximately 0.1 m2 each. The other
diver observed fishes swimming in the area, recorded their identities and also noted the presence of abundant
invertebrate megafauna and macroalgae. Collected organisms, which range 4-8 liters in total volume for each station
were inspected on site and selected hydroids and tunicates were removed to be relaxed in a solution of Epsom salts and
seawater before preserving in 5% formalin. The remaining organisms were preserved on site in 70% alcohol before
returning the samples to the laboratory for sorting and identification of organisms.

Sediment-dwelling organisms and their substratum were collected by inserting a 12.5 cm
diameter cylinder 15 cm into the sediment, closing off the bottom and top with lids and then transporting the sample to
the laboratory where it was sieved through a 0.5 mm mesh size screen. A subsample of 10 to 25 cm3 was retained from
each sample for determination of micromollusc populations.

Specimens collected were sorted and identified to species or the lowest practicable taxa,

using dissecting or compound microscope magnification when necessary. Identifications were made using descriptions
available in Reef and Shore Fauna of Hawaiói Sections 1 to 4 (published), 5 and 6 (unpublished), various taxonomic
references, and voucher specimens in the Bishop Museum collections. Specimens from various groups were sent to
taxonomic experts for verification of preliminary identifications (see Acknowledgments).
Methodology_Citation:
Citation_Information:
Originator: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge, Department of Natural Sciences, Bernice P. Bishop Museum
Publication_Date: 19990630
Title: Nonindigenous Marine Species Introductions in the Harbors of the South and West Shores of Oahu, Hawaii 1997-1998, NODC_0000324
Edition: none
Geospatial_Data_Presentation_Form: Document
Series_Information:

Series_name: Bishop Museum Technical Report
Issue_Identification: No. 15
Publication_Information:
Publication_Place: Honolulu, HI
Publisher: Bernice P. Bishop Museum
Other_Citation_Details: Report includes review of other studies of non-indigenous species introductions and impacts on native populations, and a historical perspective of Honolulu
Harbor and other south shore harbors. Study collates current findings with other investigations of non-indigenous
species. Illustrative maps, charts, and graphics accompany the text.
Online_Linkage: http://hbs.bishopmuseum.org/pdf/southshore.pdf
Source_Information:
Source_Citation:
Citation_Information:
Originator: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge, Department of Natural Sciences, Bernice P. Bishop Museum
Publication_Date: 19990630
Title: Nonindigenous Marine Species Introductions in the Harbors of the South and West Shores of Oahu, Hawaii 1997-1998, NODC_0000324
Edition: none
Geospatial_Data_Presentation_Form: Document
Series_Information:
Series_name: Bishop Museum Technical Report
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Publication_Place: Honolulu, HI
Publisher: Bernice P. Bishop Museum
Other_Citation_Details: Report includes review of other studies of non-indigenous species introductions and impacts on native populations, and a historical perspective of Honolulu
Harbor and other south shore harbors. Study collates current findings with other investigations of non-indigenous
species. Illustrative maps, charts, and graphics accompany the text.
Online_Linkage: http://hbs.bishopmuseum.org/pdf/southshore.pdf
Type_of_Source_Media: Digital document file
Source_Time_Period_of_Content:

Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 19970820
Ending_Date: 19980806
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: Bishop Museum, 1996
Source_Contribution: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge
Process_Step:
Process_Description: See the methodology section of the original data report for a specific diagram and details on the creation of this data set.
Source_Used_Citation_Abbreviation: Bishop Museum, 1996
Process_Date: 19990630
Process_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Dr. Steve Coles, Ralph C. Felice, and Dr. Lu Eldredge
Contact_Organization: Bernice P. Bishop Museum Department of Natural Sciences
Contact_Position: Scientist
Contact_Address:
Address_Type: mailing address
Address: 1525 Bernice Street
City: Honolulu
State_or_Province: HI
Postal_Code: 96817
Country: U.S.A.
Contact_Voice_Telephone: 808-847-3511
Contact_Facsimile_Telephone: 808-841-8968
Hours_of_Service: Standard office hours (9-5PB local time)

Contact_Instructions: Phone/mail to Bishop Museum
Cloud_Cover: Unknown
Spatial_Data_Organization_Information:
Indirect_Spatial_Reference: Commercial harbors of Oahu, Hawaii (Honolulu Harbor, Keehi Lagoon, Kewalo Basin, the Ala Wai Yacht Harbor and the Barbers Point Deep Draft Harbor)
Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Geographic:
Latitude_Resolution: 0.001
Longitude_Resolution: 0.01
Geographic_Coordinate_Units: Decimal Degrees
Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA National Oceanographic Data Center
Contact_Person: NODC User Services
Contact_Position: not applicable
Contact_Address:
Address_Type: mailing and physical address
Address: 1315 East-West Highway, SSMC3, 4th Floor
City: Silver Spring
State_or_Province: MD
Postal_Code: 20910
Country: U.S.A.
Contact_Voice_Telephone: 301-713-3277 or 3280
Contact_Facsimile_Telephone: 301-713-3302

Contact_Electronic_Mail_Address: nodc.services@noaa.gov
Hours_of_Service: 8:30 AM through 6:00 PM, Monday through Friday EST
Contact_Instructions: Phone/e-mail/FAX/voice mail message
Resource_Description: NODC Accession Number 0000324
Distribution_Liability: NOAA makes no warranty regarding these data, expressed or implied, nor
does the fact of distribution constitute such a warranty. NOAA and NODC
cannot assume liability for any damages caused by any errors or
omissions in these data, nor as a result of the failure of these data to
function on a particular system.
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: MS Word DOC
Format_Version_Number: 19991230
Format_Information_Content: Original document files in Microsoft Word with
accompanying EXCEL spreadsheet tables, redundant .txt files. This data set consists of a multi-page study report with
accompanying captioned maps and diagrams of station locations and methodologies, and multiple tables and
appendices. Accompanying original data is contained in EXCEL spreadsheets.
File_Decompression_Technique: None required for original data; a dataset downloaded via the NODC Ocean Archive System will save as a single compressed .tar.gz file. This file may be
decompressed/extracted with WinZip or other standard decompression utility.
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://data.nodc.noaa.gov/accession/0000324
Access_Instructions: Click on the hyperlinked Accession Number to access the data directory.
Online_Computer_and_Operating_System: UNIX, PC, Mac; standard Internet browser; standard file decompression software such as WinZip
Fees: None
Ordering_Instructions: Contact NODC via e-mail/phone/letter for a custom order.
Turnaround: Minutes
Custom_Order_Process: Contact the NODC User Services Group via phone/FAX/E-mail: nodc.services@noaa.gov
Technical_Prerequisites: Ability to read Microsoft Word and EXCEL files; read .TXT (ASCII) files; standard decompression software/program may be required if data downloaded directly from NODC.
Available_Time_Period:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 20001027
Ending_Date: Present
Metadata_Reference_Information:
Metadata_Date: 20040331
Metadata_Review_Date: 20040430
Metadata_Future_Review_Date: 20040515
Metadata_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Sheri Phillips
Contact_Organization: NOAA/NODC

Contact_Position: Oceanographer
Contact_Address:
Address_Type: mailing and physical address
Address: 1315 East-West Highway, E/OC1, SSMC3, 4th Floor
City: Silver Spring
State_or_Province: MD
Postal_Code: 20910
Country: U.S.A.
Contact_Voice_Telephone: 301-713-3280 x127
Contact_Facsimile_Telephone: 301-713-3302
Contact_Electronic_Mail_Address: sheri.phillips@noaa.gov
Hours_of_Service: 9:30 AM - 6 PM Monday-Thursday
Contact_Instructions: E-mail, phone, FAX, mail
Metadata_Standard_Name: Content Standard for National Biological Information Infrastructure Metadata
Metadata_Standard_Version: FGDC-STD-001.1-1999
Metadata_Time_Convention: Local Time
Metadata_Access_Constraints: None
Metadata_Use_Constraints: None
CoRIS:
CoRIS_ID: 20040420012104
CoRIS_Children: None
CoRIS_Beginning_Date: 19970820
CoRIS_Ending_Date: 19980806
CoRIS_Metadata_Link: http://www.coris.noaa.gov/metadata/records/txt/nodc_0000324_oahu_nonindigenous_species_1998.txt
CoRIS_Tracking_ID: 444